

WHAT IS CLAIMED IS:

1. An igniter transformer comprising:
a magnetic core;
a secondary coil surrounding the magnetic core;
a primary coil; and
a plurality of round single-core wires disposed substantially parallel to one another in a common plane, the plurality of round single-core wires being bonded side by side to form a flat multicore wire that is substantially rectangular in cross-section, the secondary coil being defined by the flat multicore wire which is edgewise wound such that longer sides of the flat multicore wire face each other in the turns.
2. An igniter transformer according to Claim 1, wherein each of the round single-core wires includes an insulating coating around a periphery of the round single-core wire and a fusible layer over the insulating coating, the flat multicore wire includes the plurality of round single-core wires consolidated by fusing the fusible layers of the round single-core wires, and the secondary coil includes a plurality of the flat multicore wires which are edgewise wound and the plurality of the flat multicore wires are bonded under pressure along an axis of the secondary coil such that the exposed fusible layers of the round single-core wires in the longer sides of the flat multicore wire are fused and the longer sides of the plurality of the flat multicore wires are bonded to each other.
3. An igniter transformer according to Claim 1, wherein the primary coil includes a thin metal sheet that is wound substantially perpendicularly to an axis of the secondary coil.
4. An igniter transformer according to Claim 1, wherein the primary coil includes a thin metal sheet that is wound substantially perpendicularly to an axis of the secondary coil, and a winding position of the primary coil shifts continuously in one direction along the axis of the secondary coil.

5. An igniter transformer according to Claim 3, wherein the primary coil has a high-voltage terminal which is disposed at an approximate center of an entire length of the secondary coil along an axis of the secondary coil.
6. An igniter transformer according to Claim 1, wherein the magnetic core has a substantially elliptic cross-section.
7. An igniter transformer according to Claim 1, wherein the magnetic core is made of NiZn.
8. An igniter transformer according to Claim 1, wherein the magnetic core is made of at least one of MnZn and amorphous materials having low resistance.
9. An igniter transformer according to Claim 1, further comprising an insulating film disposed between an outer surface of the magnetic core and an inner surface of the secondary coil.
10. An igniter transformer according to Claim 1, wherein the primary coil surrounds the secondary coil.
11. An igniter transformer according to Claim 10, further comprising an insulating bobbin disposed between an outer surface of the secondary coil and an inner surface of the primary coil.
12. An igniter transformer according to Claim 11, wherein the primary coil is wound on the insulating bobbin surrounding the secondary coil substantially perpendicularly to an axis X of the secondary coil such that an outer surface of the insulating bobbin faces larger surfaces of the primary coil.

13. An igniter transformer according to Claim 1, wherein the primary coil includes a ribbon wire.

14. An igniter transformer according to Claim 1, wherein the number of the plurality of round single-core wires is six.

15. An igniter transformer according to Claim 1, wherein each of the round single-core wires is made of copper and has a diameter of about 0.14 millimeters.

16. An igniter transformer according to Claim 1, wherein the primary coil and the secondary coil are closely coupled and a winding of the primary coil is at the low-voltage side of the secondary coil.

17. An igniter transformer according to Claim 11, wherein the primary coil includes a thin metal sheet wound in a Z-winding manner around an outer periphery of the insulating bobbin.

18. An igniter transformer according to Claim 11, wherein the primary coil includes a thin metal sheet wound in a bank-winding manner around an outer periphery of the insulating bobbin.

19. A high intensity discharge lamp comprising an igniter transformer according to Claim 1.